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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/522,180

10/26/2005

Kazuhito Kawai

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EXAMINER

CONNELLY CUSHWA, MICHELLE R

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/522,180	Applicant(s) KAWAI ET AL.	
	Examiner Michelle R. Connelly-Cushwa	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-5 is/are rejected.
- 7) ☒ Claim(s) 2 and 6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/26/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The prior art documents submitted by applicant in the Information Disclosure Statement filed on October 26, 2005 have all been considered and made of record (note the attached copy of form PTO-1449).

Drawings

Seven (7) sheets of formal drawings were filed on October 26, 2005 and have been accepted by the Examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prescott (US 4,964,692).

Regarding claims 1 and 3; Prescott discloses a light guiding device (see Figures 1 and 2) comprising:

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- an optical fiber bundle (20), formed by bundling together a plurality of optical fibers and having a first light incidence end face (21) and a first light emitting end face (23); and
- a glass rod (36), having a second light incidence end face (32) and a second light emitting end face (34) and making uniform the cross section of emitting light (see column 4, lines 6-10) from said second light emitting end face by taking in, at said second light incidence end face, the light having emitted from the first light emitting end face of the optical fiber bundle and guiding this light to the second light emitting end face.

Prescott does not explicitly disclose a glass rod holding member or that the glass rod has a rectangular shape.

One of ordinary skill in the art would have found it obvious to provide a glass rod holding member to fix the glass rod to the optical fiber bundle so that light may be coupled between the fiber bundle and the glass rod in the manner disclosed by Prescott while easily maintaining the alignment between the glass rod and the optical fiber bundle to ensure efficient coupling and low loss and further to protect the glass rod and the optical fiber bundle from the environment, as providing holders for coupling optical elements, such as detachable sleeves and ferrules, is very common and well within the level of ordinary skill in the art.

Furthermore, one of ordinary skill in the art would have found it obvious to form the optical fiber bundle and corresponding glass rod in any desired shape, including a rectangular shape, for the purpose of obtaining the desired illumination area.

Regarding claim 4; the optical fiber bundle (20) includes a plurality of fibers (21) that are fixed together at the emitting end face of the optical fiber bundle. Prescott does not explicitly stat that the optical fibers are fixed together with an adhesive agent, however, one of ordinary skill in the art would have found it obvious to incorporate any optical fiber bundle in the invention of Prescott, including optical fibers bundles in which the optical fibers are fixed by an adhesive agent, as is known in the art, for the purpose of using well known and readily available optical fiber bundles to make the invention of Prescott.

Claims 1, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamanaka et al. (US 6,523,985 B2).

Regarding claims 1, 3 and 5; Hamanaka et al. discloses a light guiding device (see Figures 1 and 2) comprising:

- an optical fiber bundle (2), formed by bundling together a plurality of optical fibers and having a first light incidence end face and a first light emitting end face; and
- a rectangular glass rod (3), having a second light incidence end face and a second light emitting end face and making uniform the cross section of emitting light (see the abstract) from said second light emitting end face by taking in, at said second light incidence end face, the light having emitted from the first light emitting end face of the optical fiber bundle and guiding this light to he second light emitting end face;

- wherein the first light emitting end face of the optical fiber bundle (2) faces the second light incidence end face of the glass rod (3) via a gap (see Figures 1 and 2).

Hamanka et al. does not explicitly disclose a glass rod holding member.

One of ordinary skill in the art would have found it obvious to provide a glass rod holding member to fix the glass rod to the optical fiber bundle so that light may coupled between the fiber bundle and the glass rod in the manner disclosed by Hamanka et al. while easily maintaining the alignment between the glass rod and the optical fiber bundle to ensure efficient coupling and low loss and further to protect the glass rod and the optical fiber bundle from the environment, as providing holders for coupling optical elements, such as detachable sleeves and ferrules, is very common and well within the level of ordinary skill in the art.

Allowable Subject Matter

Claims 2 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, which is the most relevant prior art known, does not disclose or reasonably suggest a light guiding device, as defined in claim 2, wherein the glass rod satisfied the relationships expressed by formulae (1); or a light guiding device, as defined in claim 6, comprising a curving part holding member, which, by being fixed to a portion of the optical fiber bundle in the vicinity of the light emitting end face side

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front end part and to the sleeve member, maintains a state wherein the optical fiber bundle is curved in the vicinity of the front end part in combination with the other limitations of these claims.

Conclusion

Any inquiry concerning the merits of this communication should be directed to Examiner Michelle R. Connelly-Cushwa at telephone number (571) 272-2345. The examiner can normally be reached 9:00 AM to 7:00 PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562.


Michelle R. Connelly-Cushwa
Patent Examiner
September 16, 2007